In the Claims

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41. (new) System for low-interference transmission of a signal, comprising:

a transmitter for generating an output signal to be transmitted via a transmission circuit, the signal having substantially a line spectrum;

a modulator unit associated with the transmitter for modulating the output signal to be transmitted, or a carrier signal of transmitting means in the transmitter, or the output

signal at any site in the transmission circuit, independently of a modulation technique selected for the purpose of signal transmission;

a receiver, spatially separated from the transmitter, for receiving a modulated transmitted signal via the transmission circuit;

wherein the modulator unit modulates the signal so that spectral lines of the output signal are broadened to fill gaps between individual spectral lines, and a spectral power density of the output signal is reduced without a bandwidth of the output signal being substantially increased.

42. (new) System according to Claim 41, wherein the modulator unit modulates the output signal to be transmitted, or a carrier signal of transmitting means in the transmitter, or the output signal at any site along the transmission circuit, independently of a transmission cycle.

43. (new) System according to Claim 41, wherein a controller serves to control the modulator unit.

44. (new) System according to Claim 41, wherein the transmitter comprises a clock generator.

45. (new) System according to Claim 44, wherein the modulator unit controls the clock generator appropriately for broadening the spectral lines.

46. (new) System according to Claim 45, wherein the modulator unit subjects a cycle frequency of the clock generator to frequency modulation.

47. (new) System according to Claim 46, wherein the clock generator comprises a VCO as a frequency-determining element.

48. (new) System according to Claim 47, wherein the control unit adjusts the VCO.

49. (new) System according to Claim 41, wherein the modulator unit subjects the signal to be transmitted to frequency, phase or amplitude modulation.

50. (new) System according to Claim 41, wherein the modulator unit subjects the carrier signal of the transmitting means in the transmitter or the transmitter output signal at substantially any site along the transmission circuit to frequency or phase modulation, independently of a modulation technique selected for the purpose of signal transmission.

51. (new) System according to Claim 41, wherein the carrier signal or the transmitter output signal is pulsed, and the modulator unit shifts or delays individual signal edges towards earlier or later points of time in proportion to a signal defined by an additionally provided modulation signal generator.

52. (new) System according to Claim 51, wherein the modulator unit comprises a delay control means for analyzing the transmitter output signal and for controlling a delay circuit which causes a shift or delay.

53. (new) System according to Claim 52, wherein the delay control means comprises a PLL means, and the delay circuit comprises a flip-flop circuit.

54. (new) System according to Claim 41, wherein the transmitter comprises a PLL means.

55. (new) System according to Claim 54, wherein a variation of modulation by the modulator unit is covered by a control range of the PLL means of the transmitter.

56. (new) System according to Claim 41, wherein data coding by means of pseudo random noise is performed in addition to a modulation by the modulator unit.

57. (new) System according to Claim 41, wherein a second controller unit is provided in the receiver for controlling the receiver synchronously with the modulation performed by the modulator unit in the transmitter or at substantially any site along transmission circuit, so that the signal received in the receiver is processed as an unmodulated signal, a synchronization between the transmitter, or the transmission circuit, and the receiver being achieved by means of the modulation signal or even another signal jointly available to the transmitter, or the transmission circuit, and the receiver.

58. (new) System according to Claim 41, wherein an additional transmission circuit is provided between the transmitter, or the transmission circuit, and the receiver for a transmission of a synchronization signal for controlling a modulation of the transmitter, or the transmission circuit, and the receiver.

59. (new) Method for low interference transmission of a signal, comprising the steps of:

generating an output signal to be transmitted with a transmitter at a first location, the signal having substantially a line spectrum;

modulating the signal to be transmitted, or a carrier signal of transmitting means in the transmitter, or an output signal at any site of the transmission circuit with a modulator unit, independently of a modulation technique selected for the purpose of signal transmission, to form a modulated signal;

transmitting the modulated signal from the first location; and

receiving the modulated transmitted signal via a transmission circuit at a second location spatially separated from the first location;

wherein the signal is modulated so that spectral lines of the output signal are broadened to fill gaps between individual spectral lines, and a spectral power den-

sity of the generated signal is reduced, without a bandwidth of the generated signal being substantially increased.

60. (new) Method according to Claim 59, wherein the spectral power density is reduced by filling gaps between individual spectral lines.

61. (new) Method according to Claim 59, wherein the modulator unit is controlled by means of a controller.

62. (new) Method according to Claim 59, wherein the transmitter comprises a clock generator.

63. (new) Method according to Claim 62, wherein the clock generator is appropriately controlled by means of the modulator unit for broadening the spectral lines.

64. (new) Method according to Claim 63, wherein the cycle frequency of the clock generator is frequency modulated by means of the modulator unit.

65. (new) Method according to Claim 64, wherein the clock generator comprises a VCO as frequency-determining element.

66. (new) Method according to Claim 65, wherein the VCO is adjusted by means of the controller.

67. (new) Method according to Claim 59, wherein the modulator unit subjects the signal to be transmitted to frequency, phase or amplitude modulation.

68. (new) Method according to Claim 59, wherein the modulator unit subjects the carrier signal of the transmitting means of the transmitter, or the transmitter output sig-

nal, at substantially any site along the transmission circuit to frequency or phase modulation, independent of the modulation technique selected for the purpose of signal transmission.

69. (new) Method according to Claim 59, wherein the carrier signal or the transmitter output signal is pulsed, and the modulator unit shifts or delays individual signal edges towards earlier or later points of time in proportion to a signal defined by an additionally provided modulation signal generator.

70. (new) Method according to Claim 69, wherein the modulator unit comprises a delay control means for analyzing the transmitter output signal and for controlling a delay circuit which causes a shift or delay.

71. (new) Method according to Claim 70, wherein the delay control means comprises a PLL means and the delay circuit comprises a flip-flop circuit.

72. (new) Method according to Claim 59, wherein the transmitter comprises a PLL means.

73. (new) Method according to Claim 72, wherein a variation of modulation by the modulator unit is covered by a control range of the PLL means of the transmitter.

74. (new) Method according to Claim 59, wherein data coding is performed by means of pseudo random noise in addition to a modulation by the modulator unit.

75. (new) Method according to Claim 59, wherein a second controller unit is provided in the receiver for controlling the receiver synchronously with the modulation performed by the modulator unit in the transmitter or at substantially any site along transmission circuit, so that the signal received in the receiver is processed as an unmodulated sig-

nal, a synchronization between the transmitter, or the transmission circuit, and the receiver being achieved by means of the modulation signal or even another signal jointly available to the transmitter, or the transmission circuit, and the receiver.

76. (new) Method according to Claim 59, wherein an additional transmission circuit is provided between the transmitter, or the transmission circuit, and the receiver for a transmission of a synchronization signal for controlling a modulation of the transmitter, or the transmission circuit, and the receiver.

77. (new) System according to Claim 41, wherein the transmission circuit is selected from the group consisting of a line-bound transmission circuit, a contacting transmission circuit, a contact-free transmission circuit, or combinations thereof.

78. (new) System according to Claim 41, wherein the signal comprises a digital signal.

79. (new) System for transmitting a digital data signal, comprising

a first stationary part;

a second movable part;

a transmitter for generating a transmitter output signal that includes a carrier signal and the data signal;

a receiver for receiving the transmitter output signal;

a transmission circuit coupling said transmitter to said receiver and for transmitting the transmitter output signal between said first stationary part and said second movable part;

a modulator coupled to said transmission circuit for generating a modulation signal;

a controller coupled to and controlling said modulator to generate the modulation signal and to apply the modulation signal at substantially any site in and along the

transmission circuit to modulate the transmitter output signal so that a signal spectrum of the transmitter output signal is substantially distributed and a mean spectral power density of the transmitter output signal is reduced.

wherein the modulator modulates the transmitter output signal so that spectral lines of the transmitter output signal are broadened to fill gaps between individual spectral lines of the transmitter output signal, and a spectral power density of the transmitter output signal is reduced without a bandwidth of the transmitter output signal being substantially increased.

80. (new) System according to Claim 79, wherein the transmission circuit is selected from the group consisting of a line-bound transmission circuit, a contacting transmission circuit, a contact-free transmission circuit, or combinations thereof.

81. (new) System according to Claim 41, wherein the transmitter and the receiver are mobile relative to each other.

82. (new) System according to claim 41, wherein the transmitter is a rotating data transmission device.

83. (new) Method according to Claim 59, wherein the transmitter and the receiver are mobile relative to each other.

84. (new) Method according to claim 83, wherein the transmitter is a rotating data transmission device.